CBRN Respirator Standards Development

- Where We've Been
  - CBRN SCBA Standard December 2001
  - CBRN APR Standard March 2003
- Where Are We Now:
  - CBRN SCBA Certification In Process
  - CBRN APR Certification In Process
  - CBRN Escape Respirator In Development
- Where Are We Going:
  - Timeline

CBRN Respirator Standards Development

– SCBA– December 2001

– Gas Masks – March 2003

– Escape Respirators – October 2003

– PAPRs – March 2004

– Other Respirators – 2004, 2005

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CBRN Respirator Standards Development

- CBRN Concept Development Program Management
  - Milestones and Timelines
  - Stakeholder Meetings and Discussions
  - Public Meetings
- CBRN Respirator Concept Requirements
  - Concept Development
  - Performance/Design Requirements
    - Performance Preferred
    - Design Where Required
      - Technical Integrity / Strong User Demand

CBRN Respirator Standards Development

- CBRN Respirator Concept Requirements
  - Logical / Consistent Rationale
    - Sound Engineering & Scientific Principles
- Consequence
  - Stretch Technology
  - Existing Respirators May Not Comply
  - Requirements Within Reach of State of The Art Respirator Design

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CBRN Escape Respirator Strategy

- CBRN Escape Respirator Concept Goal:

Develop a NIOSH standard for escape only respirators that addresses CBRN materials identified as inhalation hazards from possible terrorist events for use by the general working population.

CBRN Escape Respirator Strategy

- Hazard Analysis – Complex Problem
- Intended Escape from Where and What
  - Hot Zone – High Concentrations
  - Warm Zone – Low Concentrations
- Wide Variation In Hazard / Threat
- Multiple Escape Activities

CBRN Escape Respirator Strategy

- Escape from terrorism events complex problem
  - Hazard / Threat Analysis
    - Site Specific
  - Escape strategy:
    - Exit Immediately
    - Progress to designated area
    - Shelter-In-Place
  - Threat & Escape Strategy
    - Impact on escape respirator required

CBRN Escape Respirator Strategy

- Three Categories of Protection
  - HIGH Category
  - SPECIFIC Category
  - LOW Category

CBRN Escape Respirator Strategy

- HIGH Category:
  - Unknown Hazards / High Concentrations
  - Oxygen Deficiency
  - Universal Solution for Escape Protection
- SPECIFIC Category:
  - Multi Hazard Protection
  - CWA Capability
  - Specific TIM's from CBRN Hazard
- LOW Category:
  - Multi Hazard Protection (CBRN APR Hazards)
  - Escape From Low Level Concentrations

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CBRN Escape Respirator Concept

Category	Hazard Description	Respirator Performance
HIGH (Hot & Warm Zone)	CWA & TIM Hazard High Concentrations and/or O_2 Deficiency	Self-Contained Respirator
SPECIFIC (Hot & Warm Zone)	CWA & Specific TIM Hazard High Concentrations Adequate O_2	Air Purifying Respirator
LOW (General) (Warm Zone)	CWA & TIM Hazard Low Concentrations Adequate O_2	Air Purifying Respirator

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CBRN Escape Respirator Concept Development

- Objective:
  - Develop Escape Respirator Standard Concept
    - Addresses Protection Needs
    - Achieves Balance Between Performance and Use

CBRN Escape Respirator Concept Development

- Performance
  - Respiratory Protection From Hazards
  - Meet Physiological Requirements
  - Ruggedness / Environmental Cond.
  - Materials vs. Hazards vs. Storage
- Use
  - Human Interface
  - Donning
  - Training
  - Size / Weight

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CBRN Escape Respirator Concept

- Meeting Focus: April 15, 2003 Concept
  - Part 1: CBRN Air Purifying Escape Respirator
  - Part 2: CBRN Self-Contained Escape Respirator
- Concept Statement of Requirements
  - Address Protection & Use Needs
  - Achieve Balance Between Protection & Use
  - Stretch Technology BUT Stays Within

    Reach of State of The Art Respirator Design

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CBRN Escape Respirator Concept Development

- Draft Respirator Concept Requirements
- Development Process
- Concept Revisions Posted on Website
- Revision Frequency
  - Maximum Twice a Month
  - Middle and End of Month